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AN ECONOMIC HISTORY OF THE ILLINOIS AND MICHIGAN CANAL. III

IV. ECONOMIC INFLUENCE

Before the canal was opened for traffic its local influence in the development of the region through which it passes had been distinctly marked. After its opening it wielded a large influence, not only locally, but over a wider range of territory, by means of the added facilities which it furnished as a transportation route before the era of railroads, giving access to otherwise closed markets. Since the era of railroad-building began in the Middle West, it has also served as a freight-rate regulator at all competitive points. In the performance of these services, however, it has been handicapped by the conditions of the Illinois River, which with the canal completes the waterway from Lake Michigan to the Mississippi; by the character and conditions of railroad competition; and, to a less extent no doubt, by the character of the canal management.

Three periods may be distinguished, logically and chronologically, in the history of the economic influence of the canal. The first included the development of the project and the construction of the canal. The second comprised the six years from the beginning of the traffic on the canal in 1848 to the opening of the Chicago and Rock Island Railroad from Chicago to the Mississippi River in 1854. The third is the period of competition between the canal and the railroads for traffic.

During the years of projection and construction of the canal the wealth and population of the canal region grew apace. In 1829, when the canal commissioners laid out the towns of Chicago and Ottawa, Peoria was a small pioneer outpost on the extreme northern frontier of the settled portion of Illinois.¹ Beyond it and far removed from any immediate connection with the remainder of the state, and separated by wide stretches of country traversed only by the red man and a few traders, lay a small settlement at the mouth of the Chicago River and another at Galena in the lead-mining district on the upper Mississippi.² But, between 1830 and 1835, the increasing probability of the early construction of the canal and the widely disseminated opinion that its completion would greatly increase the value of all the land within a reasonable distance of the route and develop the proposed cities and villages along its course, led to a steadily increasing demand for farms and town lots along the line of the projected waterway. This movement, slow at first, was accelerated as it became increasingly apparent that the construction would not be long delayed. By the beginning of the actual work of construction in 1836, real estate speculation had become the chief industry of the canal region. Shrewd business men perceived that Chicago would necessarily become the transfer point for all passengers and commerce passing between the Great Lakes and the canal and that it was destined to be the emporium of western trade.³ A realization of these facts made the canal region, and particularly Chicago, a favorite place for the exercise of the speculative mania that swept over the country

¹ There were few settlers north of Fulton County in the "Military Tract," or north of the Sangamon River east of the Illinois.

² The entire population in the vicinity of the present city of Chicago, including white families, half-breeds, and three or four French traders, did not exceed one hundred. The poll-book used at an election held in the precinct of Chicago, Peoria County, August 2, 1830, contains thirty-two names. Not all of these voters lived at the village of Chicago. Cf. Wentworth's lecture before the Chicago Historical Society, in the Fergus Historical Series, No. 7, p. 16.

³ As originally laid out in 1830, the town of Chicago comprised the territory between the present streets of State and Halsted, and Kinzie and Madison, the junction of the north and south forks of the Chicago river falling within the limits of the town.

just prior to the panic of 1837. Accordingly, real-estate values advanced by leaps and bounds.⁴ In 1830, 126 lots sold in Chicago at prices varying from \$24 to \$130 each, but averaging about \$35. Eighty acres of land, now in the heart of the city, brought \$1.55 an acre.⁵ Four years later, lots on South Water Street, which was then the chief business street of the city, sold for \$3,500 each.⁶ A tract of 40 acres of land, now included in Butler, Wright, and Webster's addition, was purchased on January 2, 1835, for \$4,000. On April 10, following, it was sold for \$10,000.⁷ The active preparation for the actual beginning of the work only led to still wilder speculation, till the mania was checked by the panic of 1837.

The rise and decline in real-estate values in other towns along the canal were less phenomenal and spectacular but otherwise very similar to those at Chicago. The growth of the towns was slower and the speculative spirit less rampant. Consequently, the real-estate prices were not subject to such violent fluctuations. At Ottawa, in 1830, the canal commissioners sold nine lots at an average price of \$20 each. In 1836, they sold seventy-eight at an average price of \$273.85.⁸ In other canal towns the increase in values followed about the same course as at Ottawa.

As was to be expected from the inflated real-estate values, the reaction produced by the panic of 1837 was particularly violent in Chicago. After the panic, periods of inflated prices were succeeded by periods of depression for several years. Some of these variations took a wide range. The high prices of 1843 were followed by the heavy decline in 1845. In the latter year, thirteen canal lots which had been forfeited by their former purchasers were sold for \$8,622. These same lots had formerly been appraised at \$49,430. In the same year, a syndicate of canal creditors accepted at an appraisement of \$30,210, lots and

⁴ Andreas, *History of Chicago*, I, 115.

⁵ *Ibid.*

⁶ Wright, *Chicago, Past, Present, Future*, pp. 4-6.

⁷ *Ibid.*, p. 6.

⁸ *Report of the Canal Commissioners*, 1878, p. 44.

tracts which had brought \$94,405 in October, 1843.⁹ However, in each period of inflation the prices usually rose higher than in the preceding.

Such a field for speculation could not fail to attract population and investments. But not all the investments were of a speculative character. Much of the demand for farms and town lots came from those who turned their faces toward the canal region to make it their future home. To be sure, the increasing demands for farms and business locations and the estimates placed upon the future enlargement of those demands formed the basis for the speculation which from time to time placed abnormal valuations on the choice tracts of land and business situations. But the general upward trend of real-estate values throughout the period depended on a steadily growing population and industry.

The entire population included in the territory extending from Peoria to Wisconsin on the north and Indiana on the east was 1,310 in 1830.¹⁰ By 1833, Cook and LaSalle counties had been created along the line of the proposed canal, the former having a population of 9,826 and the latter of 4,754. The river section of the route, lying between the proposed western terminus of the canal and Peoria, was comprised in Putnam and Peoria counties with a combined population of 7,241.¹¹ Thus there had been a net gain of 20,511 in the population of the region of the proposed waterway in five years. In the next five years the population of this region rose to 46,451, and, in 1850, it had reached 125,708. The population of Chicago grew from 4,470 in 1840 to 12,088 in 1845 and 28,269 in 1850.¹² It was in the neighborhood of 20,000 at the opening of the canal.¹³

The economic development of the region is further shown by the rapidity with which the land passed from public to pri-

⁹ *Op. cit.*, p. 49.

¹⁰ *Twelfth Census*, Population I, Part I, p. 16.

¹¹ *Illinois House Journal*, 9th General Assembly, 2d Session, p. 86, gives the state census by counties in 1835.

¹² *Senate Executive Document*, No. 16, 34th Congress, 3d Session, pp. 40, 41.

¹³ The population given for 1847 was 16,860 and that for 1848 was 20,035.

vate ownership. Of the 3,626,536 acres of public land in the Chicago land district on May 29, 1835, 2,780,640 acres had been sold to individual purchasers by November 1, 1847.¹⁴

The imports and exports of a community fairly indicate the condition of its economic development. Measured by this standard, the economic development of the canal region did not lag behind its growth of population. During the period under consideration, the import and export trade of the region chiefly centered at Chicago, as it has since continued to do. The trade at Chicago grew and altered in character with the development of the country tributary to it.¹⁵

The second period of influence of the canal began in the

¹⁴ *Report of Jesse B. Thomas, member of the Executive Committee of the Chicago Harbor and River Convention, 1847, p. 18. The yearly sales were as follows:*

Year	Acres Sold	Year	Acres Sold
1835.....	370,043	1842.....	194,556
1836.....	202,364	1843.....	229,460
1837.....	15,697	1844.....	235,258
1838.....	87,881	1845.....	220,525
1839.....	160,635	1846.....	198,849
1840.....	137,382	1847 (To Nov. 1)	98,569
1841.....	138,583		

¹⁵ For the years when the canal was in process of construction the imports and exports at Chicago were as follows:

Year	Imports	Exports	Year	Imports	Exports
1836....	\$325,203.90	\$ 1,000.64	1842....	\$ 664,347.88	\$ 659,305.20
1837....	373,677.12	11,065.00	1843....	971,849.75	682,210.85
1838....	579,174.61	16,044.75	1844....	1,686,416.00	785,504.23
1839....	630,980.26	38,843.00	1845....	2,043,445.73	1,543,519.85
1840....	562,106.20	228,635.74	1846....	2,027,150.00	1,813,468.00
1841....	564,347.88	348,862.24	1847....	2,641,852.52	2,296,299.00

Cf. *Report of Jesse B. Thomas, member of the Executive Committee of the Chicago Harbor and River Convention, 1847, p. 15. These statistics are also given with the omission of the columns for cents in Andrews, Report on Colonial and Lake Trade, p. 218.*

The leading articles of export for the six years preceding the opening of the canal and the quantities exported were:

Year	Bu. of Wheat	Bbls. of Flour	Bbls. of Pork and Beef	Lbs. of Wool
1842.....	586,907	2,920	16,209	1,500
1843.....	628,967	10,786	21,492	22,050
1844.....	891,891	6,320	14,938	96,635
1845.....	956,860	13,752	13,268	216,616
1846.....	1,459,594	28,045	31,224	281,222
1847.....	1,974,304	32,538	48,920	411,488

month of April, 1848.¹⁶ The development of the region during nearly two decades preceding had been in anticipation of the canal. That of the next six years was due to a partial realization of the anticipations with which the project had been carried to consummation. It was a period of large industrial growth. For several months after the opening of the canal its efficiency was adversely affected by an insufficient supply of water on the Summit level,¹⁷ and by an insufficient supply of canal boats to carry the commodities and passengers seeking transportation.¹⁸ Before the close of the summer, however, the traffic had assumed large proportions. Lumber from the Great Lakes and merchandise from the East passed down the canal for distribution to the canal and river towns and from them to the interior settlements. The farm products from the canal region and from the Illinois River, and sugar, molasses, coffee, and other tropical products from the New Orleans and St. Louis markets were carried to Chicago on their way to northern and eastern consumers.¹⁹

With improved facilities for transportation and with the rapid industrial development of the region influenced by the transportation facilities furnished by the canal, the traffic and earnings grew almost steadily throughout the period, in spite of

¹⁶ The first boat, the "General Fry," passed over the Summit level from Lockport to Chicago on April 10. The "General Thornton" made the first trip the entire length of the canal from LaSalle to Chicago, where it arrived on April 23. In the canal records April 19 is regarded as the date of the opening of the canal.

¹⁷ The Calumet feeder not yet being completed, the supply of water for the Summit level had to be pumped from the Chicago River at Bridgeport. The porous condition of the soil on some of the sections of the canal rendered it extremely difficult to maintain a sufficient depth of water for the navigation of loaded boats.

¹⁸ At the opening of the canal only sixteen boats were in commission for the service.

¹⁹ In their report for 1848 the canal trustees mention, with evident satisfaction and as an indication of large through-freight business in the future, the fact that sugar and other commodities from the New Orleans market reached Buffalo by way of the Illinois and Michigan Canal on April 30, a full two weeks before the first boat of the season reached that city on the Erie canal.

unfavorable river conditions in 1852 and 1853. The annual tolls increased from \$87,890 to \$198,321. The importance of the through traffic is shown by the fact that, in 1851, 44,000,000 feet of lumber, 47,000,000 shingles, and 11,000,000 lath were sent from Chicago to points beyond the western terminus of the canal, and most of the 3,221,317 bushels of corn received at Chicago, that year, came from the Illinois River.

The five leading articles of commerce carried on the canal during the period were wheat, corn, sugar, merchandise, and lumber. The quantity of each of these commodities carried is illustrated by the following tabulation:

Year	Wheat, Bu.	Corn, Bu.	Sugar, Lbs.	Mdse., Lbs.	Lumber, Feet
1848.....	454,111	516,230	3,219,122	4,948,000	15,425,357
1849.....	579,598	754,288	4,218,298	9,176,943	26,882,000
1850.....	417,036	317,674	5,680,324	10,372,623	38,687,528
1851.....	78,062	2,878,550	4,591,471	14,175,928	56,845,027
1852.....	117,441	1,810,880	4,822,297	15,390,346	52,510,051
1853.....	340,277	2,490,675	7,332,032	10,687,598	58,500,438

Chicago, Peoria, and St. Louis were directly affected by the canal as a transportation route. Of the three, St. Louis alone was affected adversely. Even this detriment was of limited extent. Before the opening of the canal, the Illinois River trade was tributary to St. Louis. After the opening of the canal most of it became tributary to Chicago. For southern products St. Louis still held the territory, but the merchandise came principally through the canal and the products of the region largely sought the Chicago market.²⁰ Henceforth St. Louis could hope to draw the major part of the grain from the Illinois River only when temporary market conditions should chance to give that market an advantage in price. The freight rates from the Illinois River to the eastern cities by way of Chicago and

²⁰ The *Annual Review of Trade and Commerce of St. Louis* for 1848 accounts for the decrease of 316,625 bushels of corn and 237,588 bushels of wheat received in that market as compared with the receipts of the previous year in the following words: "The deficit may be accounted for from the opening of the Illinois and Michigan Canal, which drew off to Chicago and other points on the Lakes the accustomed heavy arrivals from the Illinois River, and greatly lessened the aggregate amount received at this port." The next year showed a still greater decrease.

Buffalo were lower than those by way of St. Louis and New Orleans.²¹ Consequently the grain from that region intended for the Atlantic seaboard cities or for foreign export normally sought the northern route.

St. Louis was compensated for this loss, however, by an enlargement of her mercantile interests. The wholesale grocers found new markets for sugar, coffee, tobacco, and other products of the lower Mississippi trade.²² Eastern merchandise, for which St. Louis was the distributing point for the rapidly developing regions west of the Mississippi, could be obtained more expeditiously and cheaply by way of the canal than by way of New Orleans.²³ From 1845 to 1858 the grocery business of St. Louis advanced from \$1,134,367 to \$5,018,677 and the hardware business from \$251,259 to \$904,316. Between 1846 and 1851 the imports of coffee rose from 65,000 bags to 102,000 bags and the sugar traffic increased from 17,000 packages to 66,000 packages. The sales of dry goods in 1841 amounted to \$1,300,000; in 1852 they reached \$7,000,000.²⁴ This growth of trade was not wholly due to the opening of the Illinois and Michigan Canal but was greatly facilitated by it.

The opening of the canal gave a strong impetus to the development of Peoria. Although checked in its growth by the cholera of 1849-50, the population increased from 3,014 in 1847 to 6,202 at the close of 1850.²⁵ Five hundred and seventy-nine buildings were erected in the three years, 1848, 1849, and 1850.²⁶ These building operations were facilitated by the cheapening of lumber, since the opening of the canal gave access to the northern lumber regions. In 1848 the canal brought large quantities of pine and cedar lumber from the northern forests, reducing the price to about half that of the preceding year when the supply was received from the St. Louis and

²¹ *Annual Review of Trade and Commerce of St. Louis*, 1852, p. 9.

²² *Ibid.*, 1848, pp. 2, 10.

²³ Andrews, *Report on Colonial and Lake Trade*, p. 220.

²⁴ *Annual Review of Trade and Commerce of St. Louis*, 1856, p. 9.

²⁵ Drown, *Record and Historical View of Peoria*, p. 146.

²⁶ *Ibid.*, p. 147.

Pittsburg markets.²⁷ Business prospered generally. By 1850 the importations of merchandise, lumber, and other commodities had quadrupled since 1847.²⁸ During the season of 1850, six packets made regular weekly trips between St. Louis and LaSalle. Twenty-seven steamers served as tow-boats, each towing from two to fourteen canal boats each trip. Aside from the canal boats and flat boats an aggregate of 1,286 steamers touched at the Peoria wharf during the season, an increase of more than 300 since 1847.²⁹ The number of steamers at the wharf, however, does not convey a correct impression of the relative amount of business done during these two years, because many of the imports and exports of the latter year were carried on canal boats, the number of which was not recorded. A record was kept only of the steamers that had them in tow.³⁰

The remarkable growth of Chicago during the twelve years of construction of the canal was far surpassed during the first six years of its operation.³¹ The economic development of the country tributary to the city necessarily caused an increase of its imports and exports which led in turn to an increase in the population and wealth of the city itself. The population of the four canal counties, which had increased from a few hundred in 1830 to 29,716 in 1840 and 80,926 in 1850, more than doubled

²⁷ Drown, *Record and Historical View of Peoria*, p. 105.

²⁸ *Ibid.*, p. 107.

²⁹ *Ibid.*, pp. 107-9.

³⁰ *Ibid.*, p. 144. The exports for 1851 amounted to \$1,227,134.10, the most important items of which were:

Corn.....	628,719 bu.	at \$0.40 per bu.....	\$251,487.60
Wheat.....	151,465 bu.	at .68 per bu.....	102,996.20
Oats.....	262,357 bu.	at .35 per bu.....	92,874.05
Flour.....	35,753 bbls.	at 4.50 per bbl.....	151,888.50
Whiskey.....	5,685 bbls.	at 10.00 per bbl.....	56,850.00
Wool.....	250,760 lbs.	at .30 per lb.....	75,228.00
Dry hides.....	10,701 hides	at \$2.00 per hide.....	21,402.00
Coal.....	20,580 tons	at 2.50 per ton.....	51,450.00
Beef cattle.....	1,719 head	at 15.00 per head.....	25,785.00
Hogs.....	26,796 head	at 7.00 per head.....	185,572.00
Cooperage—valued at.....			47,785.00
Sundries—potatoes, eggs, fruit, etc.....			25,000.00
Manufactures.....			100,000.00

³¹ *Senate Executive Document, No. 16, 34th Congress, 3d Session*, pp. 40, 41.

in the next five years, reaching 171,012 in 1855.³² Almost an equal gain was made by the river counties from LaSalle to the mouth of the Sangamon. From 40,536 in 1840, their population rose to 90,961 in 1850 and 128,462 in 1855. It is thus seen that the population along the waterway from Lake Michigan to the mouth of the Sangamon River increased from 70,252 in 1840 to 171,887 in 1850 and 299,474 in 1855. But the growth of population was not confined to the counties immediately touching the canal and the upper course of the Illinois River. As the better tracts of land in these counties were taken up, settlements continually spread farther back into the unoccupied sections. By 1855 more than half the population of the state was to be found north of the Sangamon River,³³ and the most densely populated counties lay in the region of the waterway.³⁴

During the first period of canal operation, from 1848 to 1854, the population of the city of Chicago advanced from 20,035 to 74,500.³⁵ But the enlargement of commerce more than kept pace with the growth in population. The grain exports grew from 3,001,740 bushels to 13,132,501 bushels, the shipments of corn alone increasing from 550,460 bushels to 6,837,890 bushels.³⁶ By 1851 the Chicago exports had reached

³² The population is not obtainable for 1848, the beginning of canal traffic, nor for 1854, the year when railway competition began. The figures for 1840 and 1850 are taken from the federal census and those for 1855 from the Illinois state census of that year.

³³ Of the 1,300,251 inhabitants of the state in that year, 737,867 were north of the Sangamon River.

³⁴ Of the five counties in the state having a population of more than 30,000 in 1855, Cook, LaSalle, and Peoria were on the waterway and Madison and Adams on the Mississippi. Cook, Kane, and Peoria were the only counties whose density of population exceeded 1,000 per square mile. Two of these were on the waterway and the other was connected with it by way of the Fox River and was also within wagoning distance of Chicago. Moreover, since 1851 Kane County had been connected directly with Chicago by the Galena and Chicago Union Railroad. *Vide* Gerhard, *Illinois As It Is*, pp. 221-24.

³⁵ *Senate Executive Document, No. 16, 34th Congress, 3d Session*, pp. 40, 41.

³⁶ *Annual Report of the Chicago Board of Trade, 1905*, p. 19.

\$5,395,471 and the imports, \$24,410,400.³⁷ The heavy preponderance of imports over exports is accounted for chiefly by the fact that a large proportion of the imports passed through the canal to the regions whose products found their way to other markets. Large quantities of ready-made clothing, hats, caps, boots and shoes, and other manufactured products intended for the St. Louis market were imported through Chicago and were carried by canal and river to St. Louis, from which city they were distributed to the newer portions of the West.

The extension of settlement to portions of the state not easily accessible to the waterway led to a demand for railroad connection with the markets. Of the lines of railroad projected to meet this demand, one was destined to come into inevitable rivalry with the canal. For many years the question of the construction of a canal or railroad from the Illinois River near the terminus of the Illinois and Michigan Canal to the Mississippi at Rock Island had been agitated. On February 27, 1847, the Rock Island and LaSalle Railroad Company was chartered to construct a road between these two points.³⁸ It was expected that this road would prove an important feeder for the canal by developing the region between the two rivers and also by tapping the upper Mississippi trade and drawing it to Chicago through the canal. An amendment of the charter, February 7, 1851, however, authorized the extension of the road to Chicago and designated the corporation as the Chicago and Rock Island Railroad Company.³⁹ It was the evident intention of the legis-

³⁷ Andrews, *Report on Colonial and Lake Trade*, pp. 220-22.

Of these imports the chief items were:

Merchandise.....	\$21,081,300	Salt.....	\$192,811
Lumber, shingles, and lath	1,698,755	Coal.....	150,000
Iron.....	411,440	Coffee.....	135,792
Sugar.....	282,582		

The leading exports for the year were:

Merchandise.....	\$1,245,500	Beef, tallow, and hides....	\$523,644
Corn.....	1,159,674	Pork, hams, and shoulders	400,816
Furs.....	564,500	Wool.....	326,083
Wheat and flour.....	477,253	Lard.....	238,140

³⁸ Crosby, *History of the Chicago, Rock Island, and Pacific Railway*, p. 2.

³⁹ *Ibid.*, pp. 2, 3.

lators in granting the right of extension, to make the railroad supplementary to the canal rather than a competitor for its traffic. Therefore, following the example of New York regarding railway competition with the Erie canal, the act granting the charter provided for compensation to the canal for losses of freight traffic by reason of railroad competition.⁴⁰ It required that for all freight except live stock, carried by the road when the canal was open for traffic, and originating between a point twenty miles west of LaSalle and the eastern terminus of the road at Chicago, the company should pay to the canal trustees tolls equal to those which the canal would have earned if the freight had been carried on that route.⁴¹

Through a blunder of the trustees the road escaped the burden of this provision.⁴² A formal grant by the trustees of a right of way through the canal lands not later than the first Monday in June, 1851, was necessary in order to obligate the company to observe this provision of the act of incorporation. Advised that the right of eminent domain could not be exercised in the case of land granted for public use, the trustees refused to make the grant, thinking in this way to prevent railway competition. The company instituted successful condemnation proceedings and the trustees failed in an effort to enjoin the construction of the road through canal lands. The work of construction was begun in April, 1852, and the road was operated for traffic from Chicago to Rock Island in the summer of 1854. In the same year the Bureau Valley Railroad was completed from Bureau Junction on the Chicago and Rock Island to Peoria, and leased in perpetuity to the latter corporation. Thus, before the close of 1854, the railroad was in com-

⁴⁰ Cf. Prentice, *Federal Power over Carriers and Corporations*, pp. 94, 95.

⁴¹ The act granting the charter also provided that all freights carried by other railroads extending from Chicago to points on the canal or to points on the Illinois River within twenty miles of the terminus of the canal, should be subject to the same rates of toll as those imposed on the Chicago and Rock Island Railroad.

⁴² It is not probable that such a provision could have remained operative for any great length of time. It was an impossible provision, as the experience of New York proved.

petition with the waterway from Chicago to Peoria and was supported by a rapidly developing country between the Illinois and Mississippi rivers and on the upper Mississippi.

The opening of the railroad for traffic along the line of the canal ushered in the third period of the canal influence. The inevitable contest for the traffic of the region common to both transportation lines began at once. The railroad easily took from the canal the passenger traffic, which had assumed considerable proportions. For six years the canal and river route had been a popular one with western travelers. An excellent line of packets operated between Chicago and LaSalle and an equally good packet service was provided for the river trip from LaSalle to St. Louis.⁴³ But within a few months after the opening of the railroad for traffic practically all the passenger business deserted the canal for the speedier mode of travel.⁴⁴ The contest for freight, however, was long and spirited. In the end, the railroad secured most of this traffic also, but only after its service and its charges had been greatly affected by the struggle. Both by its traffic and by the effect of its actual or potential competition on railroad rates, the canal has continued, decreasingly, to influence the development of the region in which it is located. Naturally the high-class freights were the first to seek the more rapid means of transportation. Lumber, grain, coal, and stone continued to be transported on the canal in large quantities for several years after the higher-class freight had chiefly gone to the railroad. For the commercial year from April 1, 1866, to March 31, 1867, 33,929,632 bushels of corn were received at Chicago, of which 9,575,569 bushels were carried on the canal and 4,279,190 bushels on the Chicago and Rock Island Railroad.⁴⁵ Of the 10,713,981 bushels of oats received

⁴³ Gould, *Fifty Years on the Mississippi*, p. 522.

⁴⁴ The railroad was opened from Chicago to Joliet in 1853 and at once became a favorite route for passengers between these two cities. As a result the passenger traffic on the canal was reduced to 25,966 for the year. With the opening of the railroad the entire length of the canal the following year, practically all the passenger business between Joliet and LaSalle also deserted the canal.

⁴⁵ Wright, *Chicago*, p. 154.

during the same period, 1,417,436 bushels came by the canal and 982,761 bushels by the competing railroad.⁴⁶ This, in spite of the fact that the railroad operated 407 miles of line and drew its traffic all the way from central Iowa.⁴⁷ In 1873 and 1874 12,722,569 bushels of corn were transported to Chicago on the canal—an annual average of 51,300 bushels for each of the 124 miles of canal and river route operated by the canal commissioners in competition with the railroad.⁴⁸ In the same time the Chicago and Rock Island Railroad carried to Chicago 8,547,187 bushels, or an annual average of 6,284 bushels for each of the 680 miles of road then operated by the company.⁴⁹

By the reduction of canal charges from time to time; by the personal solicitation of freight by the boat-owners; and by the permission which the boat-owners gave the shippers to use the boats for storage purposes when canal navigation was closed, the canal traffic continued to increase till 1882, in which year the tonnage carried was 1,011,287 tons. From that year till 1899 the amounts of freight carried annually show an irregular decline. Except for the year 1898, however, the tonnage stayed well above 400,000 tons a year till 1900, when it suddenly dropped to 121,759 tons and has since continued its downward course. While the reduction of canal charges assisted in preserving traffic for the boat-owners and in keeping up the canal tonnage, it operated adversely on the canal earnings. The maxi-

⁴⁶ The railroad carried 1,420,163 bushels of wheat and 179,316 barrels of flour as against 83,834 bushels of wheat and 45,317 barrels of flour carried by the canal. It should be remembered, however, that at this time the railroad was completed and open for traffic almost to Des Moines, Ia., and drew much of its grain traffic from non-competitive territory. There are no statistics which show what proportion of the wheat and flour produced in the canal region was carried by each of the competitors.

⁴⁷ In 1866 the main line of the Chicago and Rock Island Railroad extended to Kellogg, Ia., and the Oskaloosa branch to Washington, in the same state.

⁴⁸ Until the opening of railroad traffic between the various Illinois River towns and Chicago, large quantities of grain were sent to market through the canal from as far down the river as Beardstown. By 1873, however, the greater part of this traffic had gone to the railroads.

⁴⁹ *Special Report of the Canal Commissioners*, 1875, p. 10.

mum tolls were received in 1866, and amounted to \$302,958.⁵⁰ By 1877 the annual tolls had fallen below \$100,000,⁵¹ and in 1882, the year of the maximum tonnage, they were only \$85,947. Since that time the decline in earnings has about kept pace with the decline in tonnage.

In recent years the decline in the traffic and earnings of the canal and in its relative importance as a transportation route has been rapid. In 1905, of the 7,944,955 barrels of flour received in the Chicago market 21,216 came by the canal, while none of the 26,899,012 bushels of wheat and only 35,300 bushels of the 92,489,761 bushels of oats were carried on the canal. As usual, the corn shipments exceeded those of any other single commodity, amounting to 326,802 bushels of the 110,823,444 bushels received at Chicago. Neither rye nor barley was found among the shipments on the canal, although 2,392,444 bushels of the former and 28,074,142 bushels of the latter were received in the Chicago market. Of the 1,110,371,601 pounds of dressed beef and 1,160,572,790 pounds and 144,909 barrels of pork products shipped from Chicago during the year, not a pound was carried on the canal.⁵² Such products as coal, potatoes, beans, salt, and corn products were carried entirely by the railroads, and only 66,000 cubic feet of stone found its way to Chicago on the canal.

The ultimate loss of the canal traffic has been due to several causes. The first in point of time was the condition of the Illinois River, which often, for months continuously, was unnavigable by canal boats and frequently by river steamers.⁵³

⁵⁰ Recent canal reports give the tolls for 1866 as \$202,958. The statement is due to a typographical error which has been copied from year to year. The correct figures will be found in all the reports up to 1882.

⁵¹ Since 1879 the gross expenditures of the canal have regularly exceeded the tolls. In 1907 the expenditures were \$50,050 and the tolls were \$2,176.87. In this year, however, the canal had an income from rentals, water-power, leases, etc., of \$11,933.79, giving it a total income of \$14,110.67, and leaving an excess of expenditures over earnings of \$35,939.34.

⁵² *Report of the Chicago Board of Trade*, 1905, pp. 2, 5, 10, 16, 42, 43.

⁵³ Almost every year from the opening of the canal, the trustees called attention to the necessity of a sufficient depth of water in the Illinois River to float canal boats throughout the season of navigation. In 1856, from the

The inability of the canal boats to navigate the river necessitated the transfer of freight to the river steamers at LaSalle, with the consequent delay and expense. The failure of steamboat navigation restricted the canal to local traffic. The canal management recognized the importance of an unobstructed channel from LaSalle to St. Louis, but the state and federal governments acted too tardily on the constant appeals of the trustees and commissioners to afford effective relief. The frequent interruptions of river traffic led the river towns to rely less on water transportation and to turn to the railroad as a solution of their transportation difficulties.⁵⁴

In the contest for traffic the railroad possessed not only the advantages of greater speed and freedom from the effects of freshets and droughts, which so seriously affected the river portion of the waterway, but it also gave a more convenient and satisfactory service to many of the shippers who had formerly used the canal. Before the opening of railroad transportation shippers had hauled their commodities long distances to the canal. The building of railroads drew from the canal much of the traffic of these outlying regions, by offering a more convenient transportation route. The railroads built branches and established stations at points more convenient to the farms and inland villages than were the shipping points on the canal. The greater convenience of the railway service also materially aided in taking traffic from the canal in the canal towns and cities. In the early years of the contest between the rival transportation agencies, the terminal facilities for handling freight on the two routes were not very different. Whatever advantage existed was in favor of the canal. Warehouses for the receipt, storage, and shipment of grain and merchandise were established on the banks

middle of June till late in November, there was not more than twenty inches of water on some of the most troublesome sand-bars in the river. Navigation was practically suspended during a period of nearly six months. The trustees estimated that the revenues of the canal were reduced \$55,000 or \$60,000 below what might reasonably have been expected had there been sufficient depth of water to navigate the canal boats carrying through freight.

⁵⁴ *Annual Review of Trade and Commerce of St. Louis*, 1854, p. 11, and 1859, p. 48.

of the canal. Mills and factories largely depended on it for both power and transportation facilities. But, as the years passed by, the railway facilities were improved and those of the canal were not. Then the owners of warehouses and manufacturing establishments, grain-shippers and others largely engaged in transportation, showed a tendency to desert the canal and transfer their business to the railroad. Wherever business establishments were kept up on the canal, the railroad usually constructed side-tracks to them, and became a competitor for business on the very banks of the canal itself.

The terminal facilities at Chicago have been especially advantageous to the railroads. Spurs have been run to all the large manufacturing establishments, to the grain elevators, to the lumber yards, to the stockyards, and to every other point where it is possible to place a track needed for the delivery of incoming freight or for the receipt of that intended for shipment. Many of these are inaccessible to the waterway, while through the reciprocal switching arrangements among the railroads, they are all accessible to every railroad entering the city. This advantage of the railroad over the canal is well illustrated in the handling of building stone. When the stone is intended for use at any considerable distance from the canal, it is found cheaper to transport it from the quarries along the canal by rail and switch the cars to the nearest rail-point, than to pay the lower freight rates on the canal and incur the heavier expense for the longer haul by teams in the city. Relatively few of the grain elevators are located on the waterway, while all are accessible to the railroads. The same is true of the coalyards. Formerly large quantities of coal were shipped from the Spring Valley district to Chicago by the canal. Now, none is carried on the canal.

The system of pro-rating freight charges, however, has done more than any other one thing to undermine the canal traffic. The practice of pro-rating grain from the canal region began in 1879 and was based upon an arrangement between the traffic officials of the Lake Shore and Michigan Southern Railroad and those of the Chicago, Rock Island and Pacific whereby the Lake Shore cars should be hauled by the Rock Island road from

Chicago to the loading-point along the canal and be returned loaded for transportation to the seaboard cities. For this service the Rock Island received 10 per cent. of the Chicago–New York rate with a minimum of two cents per 100 pounds for hauling the cars. Since an elevator charge of a cent and a fourth a bushel had to be met at Chicago on all grain shipped on the canal, the pro-rating arrangement proved a serious obstacle to the canal shippers of grain intended for the eastern markets.⁵⁵ As early as 1877 William Thomas, the general superintendent of the canal, complained that grain was being driven from the canal by the discrimination of the owners of Chicago elevators in favor of the railroads and by injustice in grain inspection.⁵⁶ While there may have been some basis for these charges, the tendency of the grain to leave the canal at Joliet seems to have been more largely due to the competition of the Michigan Central Railroad for an increasing share of the eastern grain shipments. The Michigan Central at Joliet and the Toledo, Peoria, and Western at Peoria, with their eastern connections, have been able to make rates on eastern grain shipments which could not be met by any combination of local rates. As a consequence the canal has been unable for several years to handle grain from these points. In recent years, the Peoria–New York rate has ordinarily been about a cent and a half per 100 pounds above the Chicago–New York rate.⁵⁷ It is clearly impossible for the waterway to carry the grain to Chicago and transfer it to eastern carriers in competition with this rate. Joliet has had the same rate as Chicago for grain billed through to New York whether it goes by the Michigan Central or through Chicago.

⁵⁵ The statement is made on the authority of Mr. Noble Jones of Mokena, Ill., who was a grain-shipper from the canal towns and at whose instance the pro-rating arrangement was made in 1879. The statement has been verified by Mr. James L. Clark, general western freight agent of the Lake Shore and Michigan Southern Railroad, and by Mr. William Borner, general freight agent of the Chicago, Pittsburg, and Ft. Wayne Railroad.

⁵⁶ *Report of the Canal Commissioners*, 1877, p. 38.

⁵⁷ The all-rail rate from Chicago to New York during the last ten years has varied from 16.46 to 21.83 cents per 100 pounds, falling below 17 cents only in 1900, 1901, and 1905. In August, 1906, the rate was 17.50 cents and that from Peoria to New York was 19 cents.

Under the rules of shipment, grain may be unloaded at Chicago for a period not exceeding ten days and reshipped on the same bill of lading. The result has been that all grain intended for the Chicago market from Joliet has been billed to New York and the cars used to carry other grain from Chicago to New York on the through bill of lading.⁵⁸ At other points along the waterway, however, the water transportation has been able to withstand the competition of the railroad rates on grain intended for the Chicago market.

The canal has not only been able to meet the local rates of the railroads, but where they are competitors, it has forced the railroad rates much below those at non-competitive points for similar hauls. In 1874 the average length of haul for grain on the canal was 72.5 miles and the average rate, 3.47 cents per bushel. At the same time, the Illinois railroad commissioners' rate for a haul of equal length was 7.48 cents per bushel.⁵⁹ The Chicago, Rock Island and Pacific Railroad, however, found it impossible to maintain the maximum rate allowed by the commissioners because of the canal competition. In 1876 the canal rate on corn from LaSalle to Chicago, 99 miles, was 3.25 cents per bushel. The railroad rate was 4.50 cents. From Henry to Chicago, 128 miles, the rate by river and canal was 4 cents per bushel while the railroad charged 4.50 cents as against 6.83 cents from Tiskilwa to Chicago, a distance of 123 miles.⁶⁰ The grain from both Henry and Tiskilwa was carried by the same railroad and, with the exception of the nine miles from Tiskilwa to Bureau Junction, it was carried over the same tracks and frequently on the same trains. From Peoria to Chicago, 160 miles, the railroad rates were 4.50 cents a bushel during the winter season and 3 cents in summer, when the canal was in operation.⁶¹ The freight rates on lumber showed a similar influence of the

⁵⁸ This advantage has been lost under the rearrangement of rates in northern Illinois since the passage of the Hepburn act.

⁵⁹ *Special Report of the Canal Commissioners*, 1875, p. 11.

⁶⁰ *Report of the Canal Commissioners*, 1876, p. 8.

⁶¹ For many years the railroad made a practice of charging a higher rate in winter than in summer at all points where it had to compete with the waterway for traffic.

waterway. From Chicago to Peoria the canal and river rate was \$2.25 per thousand feet. The railroad charged \$2.985. For a haul of substantially the same length from Chicago to Geneseo, 159 miles, the railroad rate was four dollars.⁶² An examination of the schedules of local grain rates from various shipping points in northern Illinois to Chicago in 1901 shows still further the influence of the canal on freight rates of competing railroads. The rates on the Chicago, Rock Island and Pacific Railroad had been determined by long competition with the canal and by the possibility that much of its traffic might again revert to the canal in case the railroad rates should be raised. The rates on roads having no water competition were distinctly higher, as shown by the following tabulation:

Town	Transportation Route	Distance from Chicago	Rate per 100 Lbs.
LaSalle	C. R. I. & P. R. R.	99	5.5
Dixon.....	C. & N. W. R. R.	100	8.0
Ottawa.....	C. R. I. & P. R. R.	85	5.0
Mendota.....	C. B. & Q. R. R.	83	6.5
Marseilles.....	C. R. I. & P. R. R.	77	4.75
Emington.....	Wabash R. R.	77	6.0
Earlville.....	C. B. & Q. R. R.	72	6.5
Morris.....	C. R. I. & P. R. R.	62	4.0
Chebanse.....	Ill. Central R. R.	62 (?)	6.0
Joliet ⁶³	C. R. I. & P. R. R.	40	3.0
Manhattan.....	Wabash R. R.	40	4.0
Aurora.....	C. B. & Q. R. R.	37	5.6

These lower rates from the canal towns were necessary in order to prevent the Chicago shipments from going chiefly by way of the canal.⁶⁴ Until recently it was possible to load the canal boats and barges to the depth of four feet and eight inches. With a fleet load of from 16,000 to 17,000 bushels, the grain rate from Marseilles to Chicago was two cents a bushel.⁶⁵ The

⁶² *Report of the Canal Commissioners, 1876, p. 8.*

⁶³ The Chicago and Alton and the Atchison, Topeka, and Santa Fé railroads also compete for Chicago traffic at Joliet.

⁶⁴ That the Rock Island rates were determined by the competition of the waterway is shown by the fact that the non-competitive winter rate was higher than the competitive summer rates and by the further fact that for all points beyond reasonable teaming distance from the waterway, the Rock Island rates were similar to those of other railroads.

⁶⁵ When the boats could be loaded to a depth of four feet and eight inches,

Ottawa rates were two and a fourth cents and those at Utica two and three-eighths cents. Since 1902, the depth of water in the canal has not permitted the loading of boats to their full capacity. The rate has therefore increased on the average about a half-cent a bushel, the Marseilles rate being now 2.5 cents.⁶⁶

Since the passage of the Hepburn Act, there has been a general readjustment of railroad rates in the vicinity of the canal. The local grain rates are based on the principle of distance tariffs arranged on a series of concentric circles with Chicago as the center. This arrangement has resulted in a decided rise in railroad rates in the canal towns. The rates at Marseilles have increased from 4.75 cents per 100 pounds to 5.50 cents; at Morris they have advanced from 4 to 5 cents; at Ottawa, from 5 to 5.5 cents; and at LaSalle, from 5.5 to 6 cents. If the railroads adhere to the established rates it is probable that the canal traffic in grain will again revive, as the present schedule gives the canal an advantage of from a cent to a cent and a half on each hundred pounds. Yet it is not probable that this difference in rates will turn the major part of the grain traffic back to the canal. Other advantages of the railroad will tend to offset this difference in rate, especially for through traffic.

In the sixty years of its operation, the canal has carried 71,002,591 tons of freight.⁶⁷ It has received \$6,610,067 in tolls and expended \$4,995,316 for maintenance, repairs, and operation. In these years it has also received large sums from rentals, leases, and privileges.⁶⁸ It has not proven to be the great source of revenue for the state treasury that had been anticipated in the days of its projection and construction. But the great services of the canal have been in the economic development of the Middle West, particularly of the northern part of Illinois, and in its influence on railroad rates.

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the usual steamer load was from 4,000 to 4,200 bushels and each barge load, from 6,000 to 6,200 bushels. A steamer and two barges make up a fleet.

⁶⁶ This charge includes the entire expense to the shipper for the delivery of the grain to the elevator in Chicago.

⁶⁷ These statistics include all the period of operation up to December 1, 1907.

⁶⁸ The canal office is unable to furnish statistics for these items complete.